

Dolphin Manufacturing Co.  
(Dolphin Jute Mill)  
Spruce and Barbour Streets  
Paterson, New Jersey  
Passaic County

HAER No. NJ-12

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NJ,  
16-PAT,  
9-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record  
National Park Service  
Department of the Interior  
Washington, D.C. 20240

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HISTORIC AMERICAN ENGINEERING RECORD

DOLPHIN MANUFACTURING CO.

(Dolphin Jute Mill)

NJ-12

Date: ca. 1844-45, 1880.

Location: Spruce and Barbour Streets  
Paterson, New Jersey

Designed by: Unknown

Owner: Unknown

Significance: The Dolphin Mill building was constructed in the mid 1840's to house the American Hemp Co., a firm which spun hemp into rope. Following a reorganization in 1851, the Dolphin Manufacturing Co., which took over operations at the mill, emphasized the spinning of jute and production of twisted jute carpeting. The firm continued to prosper and was, by 1881, the largest jute factory in the U.S. The firm eventually went out of business in the late 1950s.

Transmitted by: Monica E. Hawley, Historian, 1983.

### DOLPHIN JUTE MILL

The following is the result of a title search done at the time of the survey:

"Beginning for the same on the west side of Spruce Street at a point 130 feet southerly from Passaic Mill lot No. 2, running thence (1) northerly along the line of Spruce Street one hundred feet to the south side of Oliver Street, extended; thence (2) westerly at right angles to Spruce Street along the south line of Oliver Street extended two hundred fifty feet to a point; thence (3) northerly parallel with Spruce Street fifty feet to a point; thence (4) westerly at right angles to the last line two hundred ten feet to the Stony Hill Road; thence (5) along that Road about southwesterly one hundred ninety-seven feet two inches or thereabouts to the point of intersection with a line drawn westerly from the place of beginning on Spruce Street and at right angles to said Spruce Street; thence (6) easterly along such right angles line five hundred eighty-eight feet to the place of beginning on Spruce Street."<sup>1</sup>

On September 18, 1844, Robert Johnston and Francis Burritt, partners in one of New York City's largest drygoods businesses, exchanged two lots on the middle raceway which they had bought from Peter and George Lorillard for two lots the SUM held on the upper raceway.<sup>1</sup> They had acquired land in Paterson to build a home for their American Hemp Company, which had been incorporated earlier in the year. With the trade-off, the American Hemp Company became the first occupant of the Dolphin Mill lot. The mill was built of dressed stone, 3 stories high, and about 200 feet in length.<sup>2</sup> Two years later, Burritt and Johnston sold their title to the property to Charles A. Sherman, together with the two square feet of water which accompanied the property when originally purchased.<sup>3</sup>

The fledgling company was supervised by John Meldrum, a veteran jute spinner from Dundee, Scotland, who steered the factory through several crises in its first years of operation. In March, 1848, the mill required a new water wheel, costing about \$70,000. With the use of iron shrouding and reinforcing of the old wheel, Meldrum was able to get the original wheel back into operation for \$1,000. However, Meldrum's ingenuity could not surmount all of the problems that plagued the firm. In January of 1850, Meldrum resigned himself to closing the factory when the river froze and the raceways were jammed with ice.<sup>4</sup>

On June 18, 1851, the American Jute Company was reorganized and incorporated under the title of the Dolphin Manufacturing Company, a name most likely attributable to its new president, Robert L. Taylor, the same ship-owner who had sponsored Henry Butler's Invahoe works. Among the other officers was Charles Sherman, who was elected secretary. Assets of the firm were fixed at \$166,089.17, \$110, 370 of which were the value of the buildings and machinery. The month after incorporation, Sherman quit claim to the Dolphin Mill Lot, and conveyed it to the Dolphin Manufacturing Company.<sup>5</sup>

With the growth of the jute works, more water to drive the machinery was required, and in 1854, Dolphin leased an additional three square feet from the SUM.<sup>5</sup> They had switched from hemp to jute processing following the rise in the price of hemp about 1846-47, and with Meldrum's invention of a multi-colored twisted jute carpeting, the demand for the product necessitated the expansion of the plant. A new water wheel was finally installed, in spite of Meldrum's best efforts to hold the old one together, in 1857, and in that year, the 303 employees of the firm processed three million pounds of jute.<sup>6</sup> A conflicting source asserts that the plant employed 130 hands in 1859.<sup>7</sup> The New Jersey Census of 1860 report that the firm employed 67 men and 94 women, so that the 1857 figure is most likely incorrect. The census goes on to report that the firm was capitalized at \$200,000, and processed 1,200,000 lbs. of flax hemp in the preceeding year, with the 67 horsepower supplied by the water wheel.

Bishop's "History of American Manufactures" records that in 1867, the Dolphin Mill, two stories and an attic, 238x48, housed 1,200 spindles and sixty looms, which turned out 100,000 lbs. of yarn each month and consumed 600 tons of jute in a year.<sup>8</sup> In 1869, a fourth floor was built on the original mill, and the vertical expansion necessitated a steam engine and boiler of 120 horsepower which the president of Dolphin was instructed to buy for not more than \$12,000,<sup>9</sup> in 1870. That year, according to a contemporaneous New Jersey census, the labor force at the mill had grown to 67 men, 195 women, and 51 children who, attending 22 spinning frames, 47 looms, and 960 spindles, wove 942,864 lbs. of jute cloth and spun 767,296 lbs. of yarn with a gross value of \$217,245. Power was supplied by overshot wheels, with a combined rating of 120 horsepower. As of the date of the 1870 census, the steam engine had not yet been put into operation.

By the time of the next census in 1880, a one-hundred horsepower engine supplied by three boilers was in operation, supplementing the power supplied by a 5 foot diameter, 125 horsepower turbine. The work force had almost doubled to 520, the capitalization increased by 20% to \$300,000, and the product value had swelled to \$375,000. To accommodate the factory, a three story building was added to the mill.<sup>10</sup> Begun in 1880 and completed two years later, power was furnished by a new compound 350 horsepower engine. According to Trumbull, the new addition was three stories high, measuring 110 by 200 feet in depth. A section of the rear of the building housing the power looms was one story high, so as to take advantage of the natural light. Power was derived from a 180-hp. water turbine, and a separate engine house in the rear of the mill, with two steam engines and five boilers. It was claimed the aggregate horsepower of the complex was a little shy of 1000 horsepower.

At the close of 1881, the mill consumed 2172 tons of jute on 86 looms and 3,376 spindles, attended by about 600 employees, making it the largest jute factory in the United States at the time.

In May of 1891, the Dolphin Manufacturing Co. became the Dolphin Jute Mills, reflecting the primacy of that one product for the company. Plans were considered for providing one engine to supply power for the entire mill in 1898 and the installation of a 1200-hp engine was completed by December of 1901.

The installation necessitated the water turbine be removed to rig the engine. Once out of place, the company determined that it would be foolish to reinstall the turbine, since the new engine was adequate for the power requirements of the factory, and the remains of a century of water power were discarded.<sup>12</sup>

The Dolphin Jute Mills continued in the same location until the late 1950's, when the firm went out of business.

Footnotes: Dolphin Jute Mills

1. Passaic Deeds: H 302.
2. Sci. Am., p. 302.
3. Passaic N 168.
4. Pachman, p. 6.
5. Q 617.
6. A 465 misc.
7. Pachman, 49.
8. Sci. Am. 330.
9. Trubull 271.
10. Pachman 47.
11. Pachman 46.
12. Pachman 74.

ADDENDUM TO:  
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## PHOTOGRAPHS

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